

REMARKS

Applicant appreciates the time taken by the Examiner to review Applicant's present application. This application has been carefully reviewed in light of the Official Action mailed November 2, 2007. Independent claims 1, 12 and 23 are amended herein. Support for the amendments to the claims presented herein can be found in the Specification as originally filed, at least in paragraphs 11, and 97-102. No new matter is introduced. No claims are newly added or cancelled herein. Thus, claims 1-26 remain pending. Applicant respectfully requests reconsideration and favorable action in this case.

Interview Summary

Pursuant to Applicant Initiated Interview Request submitted on January 8, 2008, a telephonic interview was conducted January 30, 2008 between Examiner Susan Rayyan, Attorney Katharina Schuster and Agent Kevin Gust. During the interview, differences between embodiments as claimed and the cited prior art as well as possible amendments to the claims were discussed. Applicant appreciates the time taken by Examiner Rayyan to discuss the claims and review Applicant's present application.

Rejections Under 35 U.S.C. § 102

Claims 1-5, 8-16, and 19-26 were rejected under 35 U.S.C. §102(a) as being anticipated by U.S. Patent Application Publication No. 2006/0167927 ("Edelstein"). The rejection is respectfully traversed. Independent claims 12 and 23 recite limitations similar to those recited in claim 1. Accordingly, traversal to the rejection will be collectively discussed herein with respect to independent claim 1.

M.P.E.P. § 2131 states, " A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1987).

Edelstein discloses a modeling layer or module which enables a user to generate a central ontology model into which data schemas such as relational database schema and XML schema can be embedded. See Edelstein, *para.* 51. Edelstein explicitly discloses that the basic constructs of an ontology model are classes, properties thereof and inheritance. See Edelstein,

para. 3. The constructs of the data schema are mapped to corresponding classes, properties or compositions of properties of the ontology model. See Edelstein, *para. 22*. A query layer or module processes a query expressed in an ontology language and generates a corresponding query expressed in a data schema language. See Edelstein, *para. 53*. Edelstein further discloses a user interface for assisting the user to fill in clauses of a query on an ontology class as well as to identify data schema constructs corresponding to specified classes and properties of the ontology. See Edelstein, *paras. 64-67*. According to Edelstein, after data corresponding to selected classes or properties from the central ontology model has been located via a data locator system, the result is displayed in a window to the user. See Edelstein, *paras. 68-69*.

As a good faith attempt to forward the prosecution, independent claim 1 is amended herein to particularly recite:

A method for searching an applied data model, comprising:
 translating a query to a set of statements operable to search the applied data model to an arbitrary level,
 wherein the applied data model is a representation of an arbitrarily complex environment and comprises at least one component and a relationship corresponding to the at least one component,
 wherein the at least one component represents an entity in the arbitrarily complex environment,
 wherein the relationship represents an association between the entity and other entities in the arbitrarily complex environment, and
 wherein the query is a component query or a relationship query;
 searching the applied data model to the arbitrary level based on the set of statements translated from the query,
 wherein the query is in a first query language, and
 wherein the set of statements is capable of execution by a database management system supporting a second query language;
 producing a set of replies to the set of statements, wherein the set of replies includes at least one component or one relationship at the arbitrary level; and
 processing the set of replies according to the query.

Thus, embodiments as claimed in claim 1 are directed to a method for searching an applied data model representing an arbitrarily complex environment. Entities in the arbitrarily complex environment are represented by components in the applied data model. Associations among entities are represented by relationships in the applied data model. In embodiments as claimed, a query to search the applied data model is therefore a component query or a relationship query. The query, which is in a first query language and which can be for searching the applied data model to an arbitrary level, is translated into a set of statements that is capable of execution by a database management system supporting a second query language. Replies to the set of statements are then processed according to the query. It is respectfully submitted that the amendments presented herein make clear that the applied data model as claimed in claim 1 and the ontology model described by Edelstein are different types of models. For at

least the foregoing reasons, Applicant respectfully submits that claim 1 is not anticipated by Edelstein and therefore is patentable over Edelstein under 35 U.S.C. § 102(a). For similar reasons, claims 2-5, 8-16, and 19-26 are also submitted to be patentable over Edelstein under 35 U.S.C. § 102(a). Accordingly, withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 6-7 and 17-18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Edelstein as applied to claims 5 and 16 above, and further in view of U.S. Patent No. 6,509,898 ("Chi"). The rejection is respectfully traversed.

Chi appears to describe a breadth-first traversal of a graph only in terms of transforming the information into a visual format for finding the shortest number of hops from one document to another. See Chi, col. 5, lines 7-11. Furthermore, according to Chi, the layout of graph structures is performed based upon usage information. See Chi, col. 7, lines 36-37. The usage based traversal turns a general graph into a tree and the order of traversal or order of layout or both are chosen based upon usage data such as simple frequencies or cocitation frequencies. See Chi, col. 5, lines 50-55. In contrast, in embodiments as claimed in claims 6 and 17, a breadth first graph search can be performed even though the applied data model represents an arbitrarily complex environment.

On pages 7-8 of the Office Action, the Examiner states that it "would have been obvious to one of ordinary skill in the art at the time of the invention to modify Edelstein with a breadth first search to efficiently retrieve data." Applicant respectfully disagrees and submits that there were no apparent reasons that would have motivated one of ordinary skill in the art, at the time the invention was made, to modify Edelstein with Chi at least due to the technological difficulties in combining a central ontology model as described by Edelstein and a usage based method of traversing a generalized graph structure as described by Chi.

According to MPEP 2141, the prior art reference (or references when combined) need not teach or suggest all the claim limitations, however, Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), stated that "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

KSR, 550 U.S. at ___, 82 USPQ2d at 1396. Applicant respectfully submits that the mere fact that Chi discloses a type of breadth-first traversal of a graph would not have been sufficient to provide an apparent reason that would have motivated one of ordinary skill in the art to combine the teachings of Edelstein and Chi and somehow arrive at an invention as claimed in claims 6 and 17. Similarly, the mere fact that Edelstein mentions SQL would not have been sufficient to provide an apparent reason that would have motivated one of ordinary skill in the art at the time of the invention to modify Edelstein and Chi and somehow arrive at an invention as claimed in claims 7 and 18. Thus, if this rejection is to be maintained in the next Office Action, Applicant respectfully requests the Examiner to provide an explicit analysis supporting the rejection.

Furthermore, Applicant believes that the elements as claimed in claims 1-26 were not known at the time of the invention. Thus, one of ordinary skill in the art could not have combined the elements as claimed by known methods with no change in their respective functions.

For at least the foregoing reasons, Applicant respectfully submits that Edelstein and Chi, alone or in combination, fail to teach or suggest claims 6-7 and 17-18. Claims 6-7 and 17-18 are therefore submitted to be patentable over Edelstein and Chi under 35 U.S.C. 103(a). Accordingly, withdrawal of this rejection is respectfully requested.

CONCLUSION

Applicant has now made an earnest attempt to place this case in condition for allowance. Other than as explicitly set forth above, this reply does not include any acquiescence to statements, assertions, assumptions, conclusions, or any combination thereof in the Office Action. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of Claims 1-26. The Examiner is invited to telephone the undersigned at the number listed below for prompt action in the event any issues remain.

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-3183 of Sprinkle IP Law Group.

Respectfully submitted,

Sprinkle IP Law Group
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